

The project to strengthen Pancasila student profile as an effort to manifest the character of environmental care

Minsih¹, Ratnasari Diah Utami¹, Maryam Nurlaila², Uslan³, Imam Mujahid⁴, Helzi¹

¹Department of Primary School Teacher Education, Faculty of Teacher Training and Education, Universitas Muhammadiyah Surakarta, Surakarta, Indonesia

²Department of Indonesian Language and Literature Education, Faculty of Teacher Training and Education, Universitas Muhammadiyah Buton, Baubau City, Indonesia

³Department of Primary School Teacher Education, Faculty of Teacher Training and Education, Universitas Muhammadiyah Kupang, Kupang, Indonesia

⁴Department Islamic Guidance and Counseling, Faculty of Ushuluddin and Da'wah, Universitas Islam Negeri Raden Mas Said Surakarta, Surakarta, Indonesia

Article Info

Article history:

Received Oct 7, 2023

Revised Oct 6, 2024

Accepted Mar 19, 2025

Keywords:

Adiwiyata

Eco-literation

Environment

Independent curriculum

Pancasila student profile

Project learning

ABSTRACT

This research aimed to describe the manifestation of the character of environmental care in the project to strengthen Pancasila student profile in the independent curriculum. This study was qualitative research with a phenomenological approach. The subjects of this study were 2 schools, namely elementary school or Sekolah Dasar (SD) Muhammadiyah 1 Ketelan and SD Negeri Karangasem 1. Data collection was conducted through in-depth interviews, observations, and document analysis. Triangulation of sources and methods was conducted to ensure the validity of the data. The data that have been collected were subsequently analyzed in the phase of data reduction, presentation, and conclusion drawing. The results of this study show that the project to strengthen Pancasila student profile in manifesting the character of environmental care has been implemented in these 2 schools. It can be observed in the implementation of sustainable lifestyle projects that are relevant to the Pancasila student profile strengthening project (P5) module, including recycling waste to create business opportunities, reducing plastic waste through the creation of eco-bricks, and processing organic waste into compost, managing waste banks, utilizing the environment as a learning resource and minimizing the use of drinking bottles by using personal tumblers.

This is an open access article under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



Corresponding Author:

Minsih

Department of Primary School Teacher Education, Faculty of Teacher Training and Education

Universitas Muhammadiyah Surakarta

Pabelan, Kartasura, Sukoharjo, Surakarta 57169, Central Java, Indonesia

Email: min139@ums.ac.id

1. INTRODUCTION

Based on the results of the 2020 population census, Indonesia has a land area of 1.9 million km² with a population of 270.20 million people. With such a large area and population, it is inevitably inseparable from the complexity of activities and their impact. It can be fatal without human responsibility to obtain or manage limited natural resources. As a result, a variety of environmental issues arise which threaten the sustainability of life. According to Acheampong and Opoku [1] population growth and increased wealth contribute importantly to environmental degradation. The phenomenon of environmental issues, such as excessive water and energy consumption, illegal deforestation, forest fires for industrial purposes, water pollution from

industrial waste, air pollution from vehicles and industries, and excessive use of plastic, exemplifies human behavior that does not reflect responsibility and environmental care.

According to Prabawati *et al.* [2] that in the rapid development of the times in the world of education, educators are required to be able to innovate with the surrounding environment. So needed the responsibility and environmental care of an individual can be formed through the educational pathway. Education has a significant role in students' sensitivity and environmental care. However, in reality, environmental issues are often encountered within school environments. Schools are also considered as one of the sources of waste, including both organic and inorganic waste [3]. The complex activities of school residents often disregard the environmental conditions in their surroundings. Students who tend to litter, show apathy towards the plants in their surroundings, and fail to turn off lights after their use, exemplify a lack of environmental care.

The presence of dirty school environments, limited student participation in environmental activities, low awareness among students in creating the character of environmental care, wasteful behavior in the use of natural resources, and indifference among students towards the environment are still frequently encountered in school [4]. The environmental issues represent a tangible manifestation of the lack of understanding and environmental care or eco-literacy among students. An individual possessing eco-literacy demonstrates a profound understanding of the implications of their actions for fellow human beings and the environment. This is also supported in Goleman *et al.* [5] book that ecoliteracy is also interpreted as an action or effort to reawaken a person of the importance of sustainability in his efforts to preserve nature. Kadarisman and Pursitasari [6] explained the application of student eco-literacy-based learning models for environment-related materials still provides room to be carried out.

This study explored a comprehensive about eco-literacy of an individual is always characterized by their knowledge or understanding of ecological principles and their attitudes or actions that align with nature. Eco-literacy aims to enable individuals to live in harmony with nature without disrupting its natural order. We found that one of the efforts to reduce environmental issues, the development of eco-literacy in the school is imperative as it equips students with the knowledge and awareness for forming individuals with environmental care. Implementation of environmental care can be developed through formal and informal education. Because school is one of the effective settings in formal education for forming human attitudes. According to Lee *et al.* [7]. Also introduces related ideas "ecotones" to describe a learning environment that has complex dynamics. Ecotones comes from the Greek word "oikos" which means household, while the word "tonos" means tension or pressure. So they argue that it is necessary to engage students with formal learning and informal learning. Students' knowledge of the environment can make them environmentally friendly and enable them to find effective solutions to environmental issues encountered [8]. It is further emphasized by Salshabella *et al.* [9] explaining that eco-literacy is important to be developed in the learning process as students have a role as agents who develop knowledge, insight, attitudes, and behaviors for a sustainable society (agents of change), agents who are aware of their natural conditions, and agents who can apply eco-literacy in their lives. As an agent of change, an individual's environmental knowledge must be manifested in tangible actions to preserve the environment. Without tangible actions, environmental knowledge remains the knowledge that lacks sustainability in its application [10].

The environment plays a crucial role in fostering attitudes and responsibilities toward environmental care and conservation. This phenomenon can be attributed to the fact that, through education, students are guided in their speech, conduct, and behavior to exhibit virtuous characteristics [11]. One of the efforts to create a community with knowledge of environmental care in the field of education is through the Adiwiyata program (eco-school program). On a global scale, one of the comprehensive programs to instill individuals with eco-literacy is by implementing the eco-school program in Adiwiyata [12]. According to the Minister of Environment and Forestry of the Republic of Indonesia Regulation No. 5 of 2013 concerning Adiwiyata Awards, the Adiwiyata program is an award granted by the government, provincial governments, and district/municipal governments to schools that successfully implement the movement of environmental care and environmental culture within the schools by Minister of Environment of the Republic of Indonesia, 2013. The Adiwiyata program aims to promote individual environmental responsibility within the school community through effective school management to support sustainable development [13]. Adiwiyata schools not only possess effective environmental management practices but also have programs fostering environmental awareness and responsibility [14]. Nature-based schools utilize the natural environment as a learning setting, where students engage in outdoor education, whereby the subject is not only studied theoretically but also implemented experientially. This concept brings students closer to the environment making learning activities more enjoyable [15].

Having a sense of environmental care is closely related to ecological literacy. In this regard, eco-literacy, commonly known as ecological intelligence, refers to the adaptation ability to the ecological conditions of an individual's surroundings [15]. Eco-literacy nurtures profound environmental care, closely related to eco-literacy. In this regard, eco-literacy, commonly known as ecological intelligence, refers to the adaptation ability to the ecological conditions of an individual's surroundings [16]. Eco-literacy is derived from

the words ecology and literacy, which also means ecological literacy, environmental literacy, ecologically literate, and environmentally literate. In simplified terms, eco-literacy can be defined as the understanding, comprehension, and implementation of ecological values that are significant in managing environmental issues. Initially, eco-literacy was predominantly known as ecological awareness or ecological consciousness. By using the term eco-literacy, it signifies not only the enhancement of awareness towards environmental care but also the comprehension of ecological principles for fostering sustainable life on Earth [17]. Developing ecological literacy is crucial in primary schools because a high level of ecological intelligence in students fosters awareness that nature should be preserved, as stated by Noviana *et al.* [18]. Based on the discussion above, ecological literacy is a form of environmental care, encompassing awareness and commitment to preserving the natural environment.

Pancasila student profile is an endeavor to enhance the quality of education in Indonesia by prioritizing character building. In the current era of technological advancement and globalization, the role of values and character education is crucial to maintain a balance between technological advancement and human development [19]. The strengthening of Pancasila student profile focuses on the cultivation of character and everyday life skills in individuals through school culture, intracurricular and extracurricular learning, and the project to strengthen Pancasila student profile and work culture [20]. The statement aligns with the answer to a grand question regarding the educational system in Indonesia. Pancasila student profile is formed in response to a grand question regarding capabilities that will be produced by the Indonesian education system. The activities of the Pancasila student profile strengthening project are systematically designed to shape and develop student character [21]. Project implementation Pancasila student profile strengthening project (P5) at elementary school (SD) Negeri Kebon Baru 1 Cirebon City is well implemented because teachers have prepared activities that accommodate children's learning needs. Teachers provide opportunities for students to develop students' creativity to generate new ideas and skills in solving problems [22]. Forming small groups of teachers based on their specifications with a coordinator and facilitator is important. They will be responsible for planning, implementing, evaluating and reflecting on P5 activities [23].

In the implementation of the independent curriculum, students are expected to create or do a project. Through this project, students can develop their skills and potential in various fields. One project in the independent curriculum is by implementing P5 activity. This study investigated the P5 activity is a project to strengthen Pancasila student profile. P5 activities can be performed through 2 stages: the conceptual stage and the contextual stage. In this P5 activity, students are free to learn in a formal setting, with a more flexible learning structure where schools can adjust the time allocation, resulting in more active learning as learners engage directly with their surrounding environment to strengthen various competencies related to Pancasila student profile [24]. The implementation of P5 activity is one of the implementations of differentiated learning, namely the process of adjusting to the interests of learning preferences, and student readiness to obtain positive learning outcomes [25]. Differentiated learning must be well planned, and here are the plans regarding differentiated learning: i) Reviewing the curriculum used to adjust to the strengths and weaknesses of students; ii) Implementing school planning and strategy by adjusting the curriculum and learning methods that can be used to meet the needs of students; iii) Describing the form of support from teachers to meet the needs of the students; and iv) Reviewing and evaluating the achievement of the school plan periodically [25]. They have not explicitly discussed how to use the school environment as a means to implement project-based learning.

In the formulation of a project, several principles need to be taken into consideration. First, the project should be designed to integrate diverse perspectives and knowledge content in an integrated or holistic manner. Through a holistic perspective, students are encouraged to perceive meaningful connections among the components involved in the implementation of a project profile, such as the students, educators, educational institutions, the community, and the realities of everyday life. Second, the learning activities should be based on real-life experiences encountered in everyday life. The selected theme should address and provide solutions to local issues in the respective regions as much as possible. One of the significant issues that can be holistically analyzed and readily encountered by students in their surrounding environment is the issue concerning the natural environment [26].

Some previous research relevant to the topic of this study includes the study from Desfandi *et al.* [12] in an elementary school that received the Adiwiyata award in Banda Aceh. The results of the study indicated a positive influence between the role of the principal's policy, the development of a relevant curriculum, school culture and habits, and the management of facilities and infrastructure on students' environmental literacy. Another study was also conducted by Adela *et al.* [27], which shows that environmental education, as an effort to improve student eco-literacy, is implemented through integrated intracurricular programs within instructional activities and extracurricular activities. However, the researcher elucidates that Adiwiyata is artificially more recognized as the physical symbol of environmentally friendly compared to the consistency of cultivating an environmentally friendly culture throughout the school community. Another study was also conducted by Marmoah *et al.* [28], which shows that the management of literacy culture in schools in Boyolali,

Indonesia can be a good practice. It can also be a reference and implementation guideline for schools that will adopt literacy programs that require schools. Another study was also conducted by Maulida and Suriansyah [29], which shows that schools with a good literacy culture management system tend to have much more achievements than schools that did not implement a literacy culture program.

We found that learning that uses the natural school environment as learning suggestions in strengthening the P5 is related to teacher skills in developing learning. Learning has a better meaning than just discussing the independent curriculum in general. Based on this description, the purpose of this research is to describe the eco-literacy of elementary school students regarding the implementation of the independent curriculum. The results of this study are beneficial for teachers and schools who are expected to improve programs, such as the implementation of schools that care and are culturally aware of the environment to foster students' eco-literacy.

2. METHOD

This study was qualitative research with a phenomenological approach. Qualitative phenomenological research examines in-depth the behavior that shows a phenomenon in real activities. It is consistent with the presence of observable behavioral symptoms related to the principle of environmentally friendly education in learning activities in 2 different schools: elementary school or Sekolah Dasar (SD) Muhammadiyah 1 Ketelan (provincial Adiwiyata), and SD Negeri Karangasem 1 (provincial of Adiwiyata). The selection of the school as the object of research is due to the fact that the school has received the predicate of provincial Adiwiyata and Eco-school. This study is descriptive qualitative research. Descriptive research refers to research conducted to determine the value of the independent variable, either 1 or more variables, without making comparisons or combinations with other variables. The following is a list of informants involved in data collection in Table 1.

Table 1. Participants

No	Participants	School
1	Teacher	SD Muhammadiyah 1 Ketelan
2	Student	SD Negeri Karangasem 1
3	School principal	SD Negeri Karangasem 1
4	School principal	SD Muhammadiyah 1 Ketelan
5	Student	SD Muhammadiyah 1 Ketelan
6	Teacher	SD Negeri Karangasem 1

The participants in this study consisted of school principals, classroom teachers and student. The criteria for informants in this study are based on the classes that have implemented P5. To determine students' eco-literacy, the data collection techniques employed in this study were in-depth interviews, observations, and documentation. Furthermore, triangulation techniques, temporal triangulation, and source triangulation were employed to check data validity. After the data were collected, the subsequent step was conducting data analysis. The data analysis technique utilized in this study was the interactive model data analysis from Miles and Huberman, including data reduction, data display, and conclusion drawing/verification.

3. RESULTS AND DISCUSSION

3.1. Result

Based on field notes and interview results, it shows that the results of research in the form of a project to strengthen Pancasila student profile for the character of environmental care realization in these 2 schools are already implemented. It can be noticed in the implementation of the sustainable lifestyle project in SD Muhammadiyah 1 Ketelan and SD Negeri Karangasem 1, which is relevant to the P5 module, namely: i) Recycling waste for a business opportunity; ii) Reducing plastic waste by creating ecobricks; iii) Processing of organic waste into compost; iv) Schools managing waste banks; v) Utilizing the environment as a learning resource; and vi) Minimizing the use of drink-food packaging with personal tumblers. According to an interview with the school principal, it can be inferred that:

“The implementation of this character of environmental care is not solely due to the implementation of the independent curriculum, and Pancasila student profile, but our school has been implementing it since the previous curriculum. However, with the inclusion of P5 in the independent curriculum, the activities become more structured and planned, thereby facilitating teachers to consistently implement them. Students also have a more real experience because they are directly involved”.

It is in accordance with the Table 2, which clarifies the P5 activity in realizing the character of love and care for the natural environment. The result of P5 activity on sustainable lifestyle was delivered by the classroom teacher of SD Muhammadiyah 1 Ketelan:

“The lack of attainment in the implementation of this project has not reached 100% success due to the influence of several factors, namely the need for guidance in achieving independence. Students’ understanding has been excellent, and healthy living behavior and love for the environment have also been excellent. Understanding domestic waste, including organic waste, can be utilized to create functional objects”.

It is in line with the statement made by a classroom teacher at SD Negeri Karangasem 1, stating that: our school has done it ourselves, especially in activities such as planting (through organizing socialization sessions with knowledgeable individuals), and taking care of the plants; however, assistance from parents is necessary for the processing aspect. In schools, processing practices and socialization are always held if there are new policies and practices. The following table illustrates that the project activities of the Pancasila student profile are progressing well in several ways based on the school culture. The school readiness in terms of facilities, curriculum, and human resources available in both schools to support this project. SD Muhammadiyah 1 Ketelan and SD Negeri Karangasem 1 creating a P5 module: including recycling waste to create business opportunities, reducing plastic waste through the creation of eco-bricks, and processing organic waste into compost, managing waste banks, utilizing the environment as a learning resource and minimizing the use of drinking bottles by using personal tumblers. The following are activities that were successfully observed related to the components of implementing the Pancasila student profile project with Tables 2 and 3.

Table 2. Aspect of the project to strengthen Pancasila student profile

Aspect	SD Muhammadiyah 1 Ketelan	SD Negeri Karangasem 1
Themes	Creating a module on sustainable lifestyle in P5.	Creating a P5 module
Activities	Initial introduction, organic waste, inorganic waste, B3 waste.	Cultivating the butterfly pea flower, nurturing its growth through scheduled care-taking, harvesting, and processing (into a natural food dye).
Activities	The classification of various types of plastics involves the search for plastic waste in the environment, including the differentiation of single-use plastics, and those that can be used multiple times, showing videos of making ecobricks covering the tools and materials used, the way to make the product, and the indispensable collaboration/cooperation with parents.	The Ecobrik program aims to gather plastic waste and categorize it according to its respective types.
Activities	It starts with education about the dangers of waste, types of waste, the benefits of waste, and the utilization of organic waste for compost production, followed by the collaborative implementation of composting procedures.	<i>Gelar Karya</i> (a work exhibition) is held at the end of every semester, focusing on environmentally friendly activities and environmental love. Regular education and socialization are implemented regarding the benefits of clean living and environmental love.

Table 3. Implementation of the project to strengthen Pancasila student profile

Aspect	SD Muhammadiyah 1 Ketelan	SD Negeri Karangasem 1
Themes	Creating a module on sustainable lifestyle in P5	Creating a P5 module
The implementation phase	Class 2 takes recycled waste into business opportunities	Ecobrik (waste bank): after buying the snack, students store plastic wrap and cut it into small pieces, and put them in a bottle.
The implementation phase	Class 5 takes plastic waste by reducing plastic waste to make ecobricks	The sorting of inorganic waste (in category) and collaborating with the waste bank in the Karangasem district. Collecting leaves for organic fertilizer (one of the teachers has had training with DLH).
The implementation phase	Class 4 processes organic waste into compost	The utilization of a tumbler to minimize bottle/cup waste. Students make <i>lilin</i> ice using materials available in the surrounding environment (i.e., butterfly pea leaves and aloe vera).

Based on the observations and interviews that have been carried out, it can be formulated that project activities that contain the character of loving the environment in the form of activities that include: i) recycling waste with this activity can cultivate the character of loving the environment; ii) reducing plastic waste impacts reducing global warming through ecobrick-making activities; iii) processing of organic waste into compost; iv) waste bank management; v) utilizing the environment as a learning resource; and vi) minimizing the use of packaged food drinks by using personal tumblers. These 6 activities show that the 2 schools have implemented

environmentally friendly education. This ongoing activity shows that the school is committed to becoming an adiwiyata school.

The implementation of the Adiwiyata school component has reached 4 main aspects that must be considered in its implementation, including environmental insight policy, environment-based curriculum implementation, participatory environment-based activities, and eco-friendly support facility management. The 4th component of the management of environmentally friendly supporting facilities and infrastructure such as green open space/*ruang terbuka hijau* (RTH), water treatment facilities, forests, parks, school gardens, greenhouses, family medicinal plants, fish ponds, biophore holes, infiltration wells, and biogas are not currently available. As a follow-up, both schools will strive to ensure that all components of the Adiwiyata school can be fulfilled in accordance with the applicable regulations.

3.2. Discussion

The provisions of the Ministry of Education, Culture, Research and Technology (Kemendikbudristek) Pancasila student profile has 6 main characteristics, as stated in the regulation of the Kemendikbudristek number 22 of 2020 concerning the strategic plan of the Ministry of Education and Culture 2020-2024, namely: i) faith, devoted to god almighty, and possess noble character; ii) global diversity; iii) cooperation; iv) critical reasoning; and vi) creative. The 6 profiles can be used in various activities, not only extracurricular activities but also school cultural activities such as environmental care activities or Adiwiyata [30]. The independent curriculum was employed by SD Muhammadiyah 1 Ketelan and SD Negeri Karangasem 1; thereby, the implementation of environmental education is integrated with P5. This curriculum serves as a guideline for teachers and the school community in implementing the learning process, both for compulsory subjects and environmental education. According to Husin *et al.* [31], the presence of a school with a tangible environmental concept will be reflected in aspects such as the school having a curriculum that encompasses environmental insights.

Based on these findings, the curriculum structure has met the achievement of school Adiwiyata program components, that the curriculum structure contains local content and self-development related to environmental protection and management policies [32]. The criteria for curriculum structure include preservation of environmental functions, preventing pollution, environmental damage to the components of compulsory subjects, local content, or self-development. The independent learning curriculum is student-centred educational program planning, where educational units have autonomy in implementing the curriculum [33]. The curriculum will be determined mainly by technological readiness, support and collaboration from all stakeholders, both central and local governments, educational quality assurance institutions, universities, schools, teachers, parents and the community [34]. The ecoliteracy as curriculum content, educational rationale, and learning activity has successfully led to more progressive learning in achieving the purpose of the formation of cultural environment preservation thought [35].

Each school has a different theme, SD Muhammadiyah 1 Ketelan selected a sustainable lifestyle theme. Students are expected to understand the impact of human activities, both short and long-term, on the sustainability of life in the world and the surrounding environment. Students also cultivate awareness to behave and act environmentally friendly, study the potential of sustainability crises in the surrounding environment, and develop readiness to confront and mitigate them [36]. Although seen from the implementation aspect, it is still not optimal and needs improvement. because the government has several strategies in implementing the Merdeka Curriculum, the technical implementation is left to each educational unit [37]. This study shows further ideas about the impact of eco-literacy activities. The results of this study indicate that eco-literacy is considered as curriculum content, the basis for educational thinking, and learning activities that lead to a progressive learning system to realize the goals of eco-literacy in the form of forming thoughts about environmental conservation [38].

Instilling environmental care habits can be achieved by implementing P5. The implementation of P5 has significantly impacted the school community, particularly the students, as it reinforces discipline and camaraderie among them, promotes harmonious relationships among peers, and raises awareness about the importance of environmental care. The aforementioned school policy represents the Adiwiyata school that actively participates in activities that support environmental care activities, whereby the activities implemented by the school enable students to acquire knowledge that will become a positive habit to be applied in their daily lives. The formation of habits refers to a repetitive manner where it will become a habit for students, and students will be accustomed to accomplishing the same thing through thoughts, attitudes, and actions. The cultivation of habits is essential for the development of students' character, as it will continue to have an impact on them until their adulthood. Inculcating habits in students can be challenging and sometimes time-consuming. However, everything that has been in relation to the formation of attitudes through continuous habits in a student's daily life is intended to prepare the student as early as possible [39].

In this P5 activity, students are required to collaborate with their peers. The knowledge and appreciation of culture, the skill of intercultural communication in interacting with others and the surroundings,

The project to strengthen Pancasila student profile as an effort to manifest the character of ... (Minsih)

and the reflection and responsibility towards the experience of diversity [40]. Students can act tolerant by respecting each other, for example, in P5 activity of community service, which is one of the fundamentals that require cooperation and good communication. Therefore, students engage in interactions with each other to foster a sense of environmental care, as observed during the community service activities. In addition, in queuing, prioritizing collective interests over individual interests is imperative. The activity reflects the value of Pancasila student profile towards global diversity. Other elements include collaboration, caring, and sharing [40]. Activities in the Adiwiyata program can foster the character of community service, as evident in the Saturday clean-up activities where students assist and collaborate in cleaning and maintaining the school environment, buildings, and surrounding environment. The production of compost, which is conducted on a monthly basis, involves the collaboration of teachers, students, and school community members in implementing the Adiwiyata program. The teacher guides the students in the process of fertilizer production, wherein the organic waste is classified. The environment has an important role in forming and realizing one's personality both in the social environment and the natural environment, which is an issue that can not be neglected by anyone, especially parents, teachers, and educators in general [41].

Environmental care refers to an individual's attitude and actions aimed at preventing damage to the natural environment and fostering efforts to rectify existing environmental damage, to maintain cleanliness, safety, and preservation in the homes, schools, and surrounding areas where individuals reside [42]. The results of the study Zaliyanti and Azani [43] show that Adiwiyata schools have attempted to foster student creativity by conducting environmental education through clean friday activities, class duty, utilization of used goods, and watering plants in the school yard. These activities make students have a high sense of curiosity, dare to try new things and are able to express themselves creatively. In performing routine activities, there must be an important role in it so that the activity can run effectively and satisfactorily. It is inseparable from the stakeholders' participation in the educational environment, including principals, teachers, employees, and school committees. Exemplarity is regarded as a form of behavior that serves as an example of that lower status, namely the students [44]. This is in line with research Lestari *et al.* [37] which agrees that the implementation of the Merdeka Curriculum components refers to the curriculum that is implemented based on improving student profiles while studying. With the activities carried out by students in the implementation of the Merdeka Curriculum, it leads to critical thinking skills, problem solving, and loving the homeland [45].

It is in line with previous research, which states that the project is to reinforce Pancasila students in developing and arranging a learning process in accordance with the dimensions and characteristics of students due to the presence of space for innovation and flexibility [24]. The strategy is through the integration of social-emotional learning and differentiation in teaching, enabling students to engage in critical thinking, demonstrate high levels of empathy, and develop a cooperative mindset [19]. Pancasila student profile is implemented through school culture in extracurricular and intracurricular activities that emphasize the development of student character in everyday life [40]. There is an interesting way to introduce green behavior to students through ecoliteracy activities that are integrated into the curriculum in schools. The results of a literature review using storytelling methods, conducting field visits, and carrying out project activities related to preserving the surrounding environment [46], [47]. In line with the results of research Marlina *et al.* [48] the cultivation of environmentally caring characters can be found in school activities, namely, disposing of rubbish in its place, making water channels, planting productive plants, handling critical land, community service, building latrines, eradicating dengue fever mosquitoes, managing organic waste, and making crafts from recycled waste.

4. CONCLUSION

Our findings provide conclusive evidence that the eco-literacy of students in implementing Pancasila profile project has been successful cultivate a sense of environmental care to student. The roles of teachers, school principals, parents, and the community are crucial in supporting the achievement of eco-literacy. The school has implemented a thematic approach to perform the project to strengthen Pancasila profile. Several P5 projects include ecobrik, waste bank, inorganic waste sorting, collecting leaves for organic fertilizer, the use of a tumbler to minimize bottle/cup waste, drinks production using materials available in the surrounding environment (i.e., butterfly pea and aloe vera) and education about the dangers of waste, types of waste.

The implementation of P5 has significantly impacted the school community, particularly the students, as it reinforces discipline and camaraderie among them. It also promotes harmonious relationships among peers and raises awareness about the importance of environmental care. The implementation of this P5 project will become a positive habit for the school community, especially students, who will be accustomed to consistently engaging in positive actions through thoughts, attitudes, and actions that will continue to affect the student until his old. The implementation of this P5 activity is expected to enable students to collaborate with their peers regarding knowledge and appreciation of culture, intercultural communication skills in interacting with others and their surroundings, as well as reflection and responsibility for the experiences they have undergone. Thus,

it can be inferred that environmental education has an important role in forming and realizing an individual's personality in the social environment and the natural environment, which is an issue that cannot be neglected by anyone, especially parents, teachers, and educators in general. The contribution of this research can make students aware of how important it is to care for the environment. Caring for the environment can be done at school by utilizing existing resources. This program does not require special time and high costs, just motivation and a good program system.

ACKNOWLEDGEMENTS

Thank you to the Rector Universitas Muhammadiyah Surakarta, the chairman of the Lembaga Riset Inovasi Universitas Muhammadiyah Surakarta and to the Faculty of Teacher Training and Education, Universitas Muhammadiyah Surakarta for providing Risetmu Diktilitbang PP Muhammadiyah research funding, who have provided the opportunity to contribute to education in this country. vsd

FUNDING INFORMATION

The authors acknowledge with gratitude the financial support provided by Risetmu Diktilitbang PP Muhammadiyah. Special appreciation is extended to Universitas Muhammadiyah Surakarta for the provision of research resources and facilities.

AUTHOR CONTRIBUTIONS STATEMENT

This journal uses the Contributor Roles Taxonomy (CRediT) to recognize individual author contributions, reduce authorship disputes, and facilitate collaboration.

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
Minsih	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
Ratnasari Diah Utami	✓	✓				✓		✓	✓	✓	✓	✓		
Maryam Nurlaila	✓			✓			✓		✓	✓				
Uslan	✓		✓	✓			✓			✓	✓		✓	✓
Imam Mujahid	✓	✓		✓	✓		✓			✓		✓		✓
Helzi	✓	✓			✓	✓	✓	✓	✓	✓				

C : **C**onceptualization

M : **M**ethodology

So : **S**oftware

Va : **V**alidation

Fo : **F**ormal analysis

I : **I**nvestigation

R : **R**esources

D : **D**ata Curation

O : Writing - **O**riginal Draft

E : Writing - Review & **E**editing

Vi : **V**isualization

Su : **S**upervision

P : **P**roject administration

Fu : **F**unding acquisition

CONFLICT OF INTEREST STATEMENT

The authors confirm that there are no conflicts of interest related to financial matters or personal connections.

INFORMED CONSENT

All study participants provided informed consent. Teachers who participated were fully briefed on the study objectives and informed of their right to discontinue participation at any time.

ETHICAL APPROVAL

The study adhered to all applicable national regulations and institutional policies in accordance with the principles received approval

DATA AVAILABILITY

The research data supporting this study's findings can be obtained from the corresponding author, [M], through reasonable request. The dataset is not publicly accessible due to privacy and ethical considerations, as it contains information that could potentially compromise participant confidentiality.

REFERENCES

- [1] A. O. Acheampong and E. E. O. Opoku, "Environmental degradation and economic growth: investigating linkages and potential pathways," *Energy Economics*, vol. 123, p. 106734, 2023, doi: 10.1016/j.eneco.2023.106734
- [2] I. Prabawati, Meirinawati, Y. Riyanto, N. Hariyati, A. Indrasetyaningsih, and S. Ladiqi, "Implementation of learning curriculum in integrated independent campus learning program case study on KKNT Village project," *International Journal of Learning, Teaching and Educational Research*, vol. 22, no. 3, pp. 470–490, 2023, doi: 10.26803/ijlter.22.3.28.
- [3] W. Nigrum, E. Yuniarti, A. Razak, and L. Handayani, "Science midwifery understanding waste management in the 04 birugo Bukittinggi state elementary school environment," *Science Midwifery*, vol. 11, no. 5, pp. 819–825, 2023.
- [4] M. Syahri, M. Widodo, and A. Sofwani, "Environmental awareness of character building for student through the waste bank education," *Journal of Southwest Jiaotong University*, vol. 56, no. 6, pp. 627–636, 2021, doi: 10.35741/issn.0258-2724.56.6.55.
- [5] D. Goleman, Z. Barlow, and L. Bennett, "Forging new norms in New Orleans: from emotional to ecological intelligence," *Teacher Education Quarterly*, vol. 37, no. 4, pp. 87–98, 2010.
- [6] I. Kadarisman and I. D. Pursitasari, "Eco-literacy in science learning: a review and bibliometric analysis," *Jurnal Pendidikan Indonesia Gemilang*, vol. 3, no. 2, pp. 134–148, 2023, doi: 10.53889/jpig.v3i2.197.
- [7] J. K. Lee, H. Spire, E. Wiebe, K. Hollebrands, and C. Young, "Portraits of one-to-one learning environments in a new learning ecology," *International Journal of Learning, Teaching and Educational Research*, vol. 10, no. 3, pp. 78–101, 2015.
- [8] L. Prastivi, D. V. Sigit, and R. H. Ristanto, "Ecological literacy, environmental awareness, academic ability and environmental problem-solving skill at Adiwiyata school," *Indonesian Journal of Science and Education*, vol. 3, no. 2, pp. 82–92, 2019, doi: 10.31002/ijose.v3i2.1114.
- [9] D. C. Salshabella, D. K. Wardani, and M. Sabandi, "From education to action: environmental literacy as a predictor of green consumption in urban societies," *Jurnal Ilmu Pendidikan Dan Sosial*, vol. 14, no. 3, pp. 1340–1351, 2025.
- [10] M. I. Hossain, Y. Jamadar, M. F. Islam, M. Rashed, and T. Akter, "Environmental sustainability practices in SMEs: insights from integrated PLS-SEM and fsQCA approaches," *Journal of Cleaner Production*, vol. 503, p. 145185, 2025, doi: 10.1016/j.jclepro.2025.145185.
- [11] K. Primandini and A. Sunarso, "An analysis of teachers educational role in developing religious character among lower grade students," *Jurnal Teknologi Pendidikan*, vol. 27, no. 1, pp. 224–235, 2025, doi: 10.21009/jtp.v27i1.54162.
- [12] M. Desfandi, E. Maryani, and Disman, "Building ecoliteracy through adiwiyata program (study at Adiwiyata school in Banda Aceh)," *Indonesian Journal of Geography*, vol. 49, no. 1, pp. 51–56, 2017, doi: 10.22146/ijg.11230.
- [13] A. Rahman, S. Santosa, M. S. Basyir, I. Nur'aini, and Z. Arifin, "Implementation of the adiwiyata school in improving the quality of public elementary school education," *AL-ISHLAH: Jurnal Pendidikan*, vol. 15, no. 4, pp. 5440–5448, 2023, doi: 10.35445/alishlah.v15i4.2299.
- [14] N. Fazira and Z. H. Ramadan, "Implementation of the Adiwiyata program to build environmental caring character in elementary school students," *Aulad: Journal on Early Childhood*, vol. 6, no. 3, pp. 386–391, 2023, doi: 10.31004/aulad.v6i3.549.
- [15] I. G. Siregar, M. Ana, and T. Quimbo, "Promoting early environment education: The case of a nature school in Indonesia," *Journal of Nature Studies*, vol. 15, no. 1, pp. 70–86, 2016.
- [16] E. Kusumawardani, Y. Nurmallasari, and A. Rofiq, "Ecoliteracy competence assessment to improve innovation capability in a rural community," *Journal of Education Research and Evaluation*, vol. 7, no. 1, pp. 61–69, 2023, doi: 10.23887/jere.v7i1.54103.
- [17] T. F. Orman, "Exploring youth eco-literacy through lived experiences. 'When you purchase a pair of jeans, you bear the burden of child labor in South Asia'," *Journal of Environmental Education*, vol. 55, no. 5, pp. 363–377, 2024, doi: 10.1080/00958964.2024.2345354.
- [18] E. Noviana, S. Supentri, R. Hidayati, and M. N. Huda, "Why do students need to establish ecoliteracy?," *Journal of Teaching and Learning in Elementary Education*, vol. 1, no. 2, pp. 69–74, 2018.
- [19] S. Pamuji, S. Gonzales, and A. Reza, "The importance of character education in the digital era for the future article info," *International Journal of Educatio Elementaria and Psychologia*, vol. 1, no. 6, pp. 346–360, 2024.
- [20] Arifin, S. Ro. Mas, I. Bafadal, and M. Gaib, "Strengthening the Pancasila student profile in the implementation of freedom to learn in elementary schools," *Jurnal Pedagogi Dan Pembelajaran*, vol. 7, no. 1, pp. 166–174, 2024, doi: 10.23887/jp2.v7i1.63674.
- [21] F. D. Hardiyanto, H. T. Atmaja, and T. Arsal, "Habitat in the implementation of pancasila student profile strengthening project through entrepreneurship project at school," *Journal of Educational Social Studies*, vol. 12, no. 1, pp. 45–54, 2023.
- [22] Y. D. S. Putri *et al.*, "Implementation of the Pancasila student profile strengthening project (P5) in elementary school," *Journal of Education and Teacher Training Innovation*, vol. 1, no. 1, pp. 11–23, 2023.
- [23] F. Nurdyansyah, I. Muflihati, R. M. D. Ujianti, M. Novita, H. Kusumo, and J. C. Ryan, "Indonesian character building strategy: Planning the Pancasila student profile strengthening project in Kurikulum Merdeka," *KnE Social Sciences*, vol. 7, no. 19, pp. 362–369, 2022, doi: 10.18502/kss.v7i19.12456.
- [24] S. Ramadhani, Azizah, Nurjannah, L. W. Safutri, "The implementation of the Pancasila student profile strengthening project module (P5) for elementary school students creativity: an experimental study," *Journal of Psychology and Instruction*, vol. 9, no. 1, pp. 43–50, 2025.
- [25] N. N. Mariani, K. Y. Witraguna, N. M. Wirayani, and N. M. Sukarini, "Students' perspectives on the implementation of the Pancasila student profile strengthening project in elementary schools: a Kirkpatrick model evaluation study," *Jurnal Pedagogi Dan Pembelajaran*, vol. 7, no. 2, pp. 270–277, 2024, doi: 10.23887/jp2.v7i2.83377.
- [26] D. Setiani and R. W. Putri, "The influence of nature school's curriculum on student's environmentally caring behaviour (study on Sekolah Alam Bekasi)," *Asian Journal Collaboration of Social Environmental and Education*, vol. 2, no. 1, pp. 46–59, 2024, doi: 10.61511/ajcsee.v2i1.2024.1149.
- [27] D. Adela, Sukarno, and M. Indriayu, "Integration of environmental education at the Adiwiyata program recipient school in growing ecoliteracy of students," in *Proceedings of the International Conference on Teacher Training and Education 2018 (ICTTE 2018)*, 2018, pp. 67–71, doi: 10.2991/ictte-18.2018.11.
- [28] S. Marmoa, J. I. S. Poerwanti, and Suharno, "Literacy culture management of elementary school in Indonesia," *Heliyon*, vol. 8, no. 4, p. e09315, Apr. 2022, doi: 10.1016/j.heliyon.2022.e09315.
- [29] A. Maulida and A. Suriansyah, "Management of literacy culture development in elementary schools," *Journal of K6, Education, and Management*, vol. 2, no. 4, pp. 331–339, Dec. 2019, doi: 10.11594/jk6em.02.04.08.
- [30] T. Astuti, E. Handoyo, P. Rohsulina, and C. K. Chin, "Strengthening character education in Adiwiyata schools," *Dinamika Jurnal Ilmiah Pendidikan Dasar*, vol. 15, no. 1, pp. 19–31, 2023, doi: 10.30595/dinamika.v15i1.16033.
- [31] A. Husin, H. Helmi, Y. K. Nengsih, and M. Rendana, "Environmental education in schools: sustainability and hope," *Discover Sustainability*, vol. 6, no. 1, p. 41, doi: 10.1007/s43621-025-00837-2

- [32] L. D. S. Cahyanti and S. Raharja, "The implementation of environment-based curriculum in Adiwiyata state primary school," in *3rd International Conference on Learning Innovation and Humanities Research*, 2020, pp. 749–756, doi: 10.2991/assehr.k.200129.094.
- [33] H. Djubu, "The role of madrasah supervisors in the implementation of the independent learning curriculum," *Journal of Indonesian Impressions (JII)*, vol. 2, no. 12, pp. 1181–1188, 2024, doi: 10.58344/jii.v2i12.4485.
- [34] R. R. Aliyyah, Rasmitadila, G. Gunadi, A. Sutisnawati, and S. Febriantina, "Perceptions of elementary school teachers towards the implementation of the independent curriculum during the COVID-19 pandemic," *Journal of Education and e-Learning Research*, vol. 10, no. 2, pp. 154–164, Feb. 2023, doi: 10.20448/jeelr.v10i2.4490.
- [35] R. Muthukrishnan, "Using picture books to enhance ecoliteracy of first-grade students," *The International Journal of Early Childhood Environmental Education*, vol. 6, no. 2, pp. 19–41, 2018.
- [36] Yulizar and Siswanto, "Evaluation of iimplementation of the independent curriculum at state level schools for academic year 2022/2023 in Belitung District, Bangka Belitung Islands Province," *International Journal of Social Science Research and Review*, vol. 6, no. 9, pp. 146–156, Sep. 2023, doi: 10.47814/ijssrr.v6i9.1595.
- [37] N. A. P. Lestari, L. T. S. Wahyuni, I. P. B. Arnyana, and N. Dantes, "Policy analysis of the implementation of Merdeka Curriculum in elementary school," *International Journal of Elementary Education*, vol. 7, no. 4, pp. 567–575, 2023, doi: 10.23887/ijee.v7i4.64103.
- [38] Wasino, R. Suharto, C. B. Utomo, and F. A. Shintasiwi, "Cultural ecoliteracy of social science education at junior high school in North Java Indonesia," *Journal of Social Studies Education Research*, vol. 11, no. 4, pp. 52–83, 2020.
- [39] R. P. Yani and F. Tirtoni, "Collaborative learning integrated Pancasila profile based on cultural diversity to improve critical thinking ability," *AL-ISHLAH: Jurnal Pendidikan*, vol. 16, no. 2, pp. 2714–2727, 2024, doi: 10.35445/alishlah.v16i2.5149.
- [40] P. A. Dharmayanti, W. E. Paramartha, L. P. S. Lestari, H. Halida, and F. N. Fakaruddin, "Role-playing techniques to improve intercultural communication competence," *Journal of Innovation in Educational and Cultural Research*, vol. 6, no. 2, pp. 352–360, 2025, doi: 10.46843/jiecr.v6i2.2201.
- [41] S. Krauss, U. Orth, and R. W. Robins, "Family environment and self-esteem development: A longitudinal study from age 10 to 16," *Journal of Personality and Social Psychology*, vol. 119, no. 2, pp. 457–478, 2020, doi: 10.1037/pspp0000263.
- [42] A. D. B. El Rizaq, W. S. Utami, A. F. A. Abdullah, S. Romadhon, and M. H. Ibrahim, "Analysis of environmental care attitudes based on students' ecological intelligence," *AL MA'ARIEF : Jurnal Pendidikan Sosial Dan Budaya*, vol. 7, no. 1, pp. 15–23, 2025, doi: 10.35905/almaarief.v7i1.12983.
- [43] A. M. Zaliyanti and M. Z. Azani, "Implementation of the Adiwiyata program by the principal to foster students' morals towards the environment," *JIE (Journal of Islamic Education)*, vol. 9, no. 1, pp. 359–383, 2024, doi: 10.52615/jie.v9i1.391.
- [44] M. Croce, "Moral understanding, testimony, and moral exemplarity," *Ethical Theory and Moral Practice*, vol. 23, no. 2, pp. 373–389, 2020, doi: 10.1007/s10677-019-10051-5.
- [45] I. Wahyudi and W. Wuryandani, "Integrating cultural values in nationalism character education: a study on Merdeka Curriculum implementation," *Indonesian Values and Character Education Journal*, vol. 7, no. 2, pp. 120–131, 2024, doi: 10.23887/ivcej.v7i2.84289.
- [46] E. Setiawati *et al.*, "Develop green behaviour through ecoliteracy for early children," *Systematic Reviews in Pharmacy*, vol. 11, no. 11, pp. 1551–1558, 2020.
- [47] R. Yusuf, S. Sanusi, M. Maimun, I. Fajri, and I. Putra, "The relationship between environmental citizenship and students' environmental behavior at Adiwiyata school," *Journal of Citizenship Education*, vol. 10, no. 1, pp. 1–15, 2020.
- [48] M. Marlina, R. L. Mkumbachi, A. Mane, and L. R. Daud, "Environmental care character education based on local wisdom for marine resource management," *Jambura Geo Education Journal*, vol. 4, no. 2, pp. 199–207, 2023, doi: 10.34312/jgej.v4i2.21920.

BIOGRAPHIES OF AUTHORS



Minsih    is a lecturer in the Department of Primary School Teacher Education. She received a master's degree from Yogyakarta State University and a bachelor's degree from UIN Yogyakarta. In 2009, she joined the Department of Primary School Teacher Education at the Faculty of Teacher Training and Education at Universitas Muhammadiyah Surakarta. She has written several articles in the field of education. She has conducted extensive research and published many publications in the field of elementary school education including inclusive education, learning for children with special needs, student learning difficulties, character education, implementation of the independent curriculum. Her research interests also include elementary education and training. She served as deputy head of the Basic Education Masters Study Program at Universitas Muhammadiyah Surakarta. She can be contacted at email: min139@ums.ac.id.



Ratnasari Diah Utami    is a lecturer in Department of Primary School Teacher Education. She received a master's degree and a bachelor's degree from the Universitas Muhammadiyah Surakarta. In 2010 she joined the Department of Primary School Teacher Education of the Faculty of Teacher Training and Education Faculty at Universitas Muhammadiyah Surakarta. She has written several articles in the field of education. She has conducted extensive research and published many publications in the field of elementary school education, including character education, humanist literacy, and local wisdom. Her research interests also include education and training at the primary education level. She can be contacted at email: rdu150@ums.ac.id.



Maryam Nurlaila    is a lecturer in the field of Indonesian Language and Literature Education at the Faculty of Teacher Training and Education, Universitas Muhammadiyah Buton. She received her master degree in Indonesian Language Education from Universitas Negeri Makassar, Indonesia, and bachelor degree from Universitas Hasanuddin Makassar, Indonesia. She has held administrative posts as deputy dean from 2019-2023 and currently as dean of the Faculty of Teacher Training and Education of Universitas Muhammadiyah Buton (2023-2027). She has written several articles the area of studying the value of character education in language and literary texts. She can be contacted at email: maryam.nurlaila@umbuton.ac.id.



Uslan    is currently the head of Primary School Teacher Education Program since 2020 in Faculty of Teacher Training and Education, Universitas Muhammadiyah Kupang. He is now taking doctoral degree in Basic Education, from Sultan Idris Education University. He has researched extensively and has widely published in the areas of science literacy, science for elementary education, and assesment tools for science learning. He also serves as the coordinator in research and publication field for Pimpinan Wilayah Muhammadiyah NTT, a member of publication sector for HDPGSDI Region IV, and a member in curriculum sector for PPPSPGSDI. He can be contacted at email: uslan@unmuhkupang.ac.id.



Imam Mujahid    is a professor of Islamic Guidance and Counseling at Raden Mas Said State Islamic University Surakarta. He obtained his doctoral degree In Guidance and Counseling from Universitas Pendidikan Indonesia Bandung. He has extensive experience in the field of education with the scope of Islamic guidance and counseling, character education, inclusive education, learning for children with special needs and education management. He is active in conducting scientific research and has written many scientific articles in several reputable journals at national and international scopes. He can be contacted at email: imam.mujahid@staff.uinsaid.ac.id.



Helzi    is a master's student in Basic Education at Universitas Muhammadiyah Surakarta. She is also active in the Surakarta City Muhammadiyah Student Association organization. During her time as a student, she actively discussed and shared current issues such as politics, student life, and religion. She can be contacted at email: q200230001@student.ums.ac.id.